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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/619,067	07/19/2000	Peter J. Letts	7011-US3	2113

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EXAMINER

CHARIOUI, MOHAMED

ART UNIT	PAPER NUMBER
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2857

DATE MAILED: 12/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/619,067

Applicant(s)

LETTS ET AL.

Examiner

Mohamed Charioui

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-14 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 15-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-7 and 15-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Flakne et al. (US 6,219,029) in view of Reid et al. (US 4,476,386).

**As per claims 1 and 15**, Flakne et al. teach a test and measurement instrument (i.e. oscilloscope) for multi-channel mask testing (see col. 6, lines 29-42): a group of M signal input terminals for receiving M signals from a circuit under test and an acquisition system coupled to the M signal input terminals for acquiring samples of a waveform at each of the M signal input terminals (see col. 9, lines 4-57); a controller for generating mask pixel data defining a mask (see col. 6, lines 47-59); a memory for storing waveform samples and mask pixel data, mask pixel data including an identification code (i.e. identification bits) (see col. 10, lines 54-65); and display circuitry for simultaneously displaying a representation of the mask and all of the waveforms from the M signal input terminals (see col. 6, lines 18-59). Flakne et al. fail to explicitly teach a comparison circuitry for reading a memory location, and determining if any acquired waveform sample of the signal from each of the M signal input terminals is to be written into a memory location currently storing a mask pixel, causing a mask violation. Reid et al. teach this feature (see col. 11, line 65 to col. 12, line 23). It would have been obvious to

one having ordinary skill in the art at the time the invention was made to incorporate Reid et al.'s teaching into Flakne et al.'s invention because it would identify the type of the pixel that needs to be stored in the pixel memory location. Therefore, it would prevent copying a waveform sample into a mask pixel and mask violation would be avoided.

**As per claims 2, and 16**, Flakne et al. further teach a rasterizer; memory is a raster memory; comparison is performed by the rasterizer examining pixel data of the raster memory for the identification code as waveform samples are composited into the raster memory; and the comparison being performed sequentially on a waveform basis (see col. 6, lines 7-60 and col. 10, lines 54-65).

**As per claims 3, 4, 17 and 18**, Flakne et al. further teach that rasterizer increases an intensity value of the waveform sample violating the mask prior to compositing the sample into the raster memory (see col. 6, lines 29-59).

**As per claims 5 and 12**, Flakne et al. further teach that the controller generating mask pixels is a microprocessor (see col. 16, lines 5-15).

**As per claim 6**, Flakne et al. further teach that controller generating mask pixels is a dedicated ASIC (i.e. look-up-table 35 which is a library provided by the manufacturer) (see col. 9, line 47 to col. 10, line 26).

**As per claim 7**, Flakne et al. further teach that the test and measurement instrument is a digital oscilloscope (see col. 10, lines 4-26).

***Allowable Subject Matter***

2. **Claims 8-14** are allowed.

The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of record teaches or suggests a multiplexer having N input channels and M output channels, where N is greater than M, and M is greater than one, for selecting ones of the N-channels in groups of M-channels at a time in response to a first control signal; each of the N input channels being coupled to receive a signal from a respective one of N output channels of a circuit under test in combination with the rest of the claim limitations.

### ***Response to Arguments***

3. Applicant's arguments with respect to the subject matter of claims 8-14 have been considered.

With respect to Flakne et al. reference, Applicant argues that Flakne does not teach the generation of mask pixel data by a controller to define a mask.

Examiner, however, sees that Flakne teach generation of mask pixel data by a controller to define a mask (i.e. "the tag bits allow the channels to be prioritized, or "layered", so that only the intensity of the one on top is displayed when two or more channels overlap") (see col. 6, lines 36-42 and col. 15, line 49 to col. 16, 46).

### **Contact information**

4. Any inquiry concerning this communication from examiner should be directed to Mohamed Charioui whose telephone number is 703 605-4362. The examiner can normally be reached Monday to Friday 9 am to 6 pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached at 703 308-1677. The fax phone number for the organization where this application is assigned is 703 305-3431.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose number is 703 308-0956.

Mohamed Charioui

10/19/03

  
MARC S. HOFF  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800